

REMARKS/ARGUMENTS

Reexamination of the captioned application is respectfully requested.

A. SUMMARY OF THIS AMENDMENT

By the current amendment, Applicants:

1. Amend claims 1, 3-7, 9 and 10, without prejudice, without disclaimer, and without acquiescing in the rejections.
2. Respectfully traverse all rejections and objections.

B. PATENTABILITY OF THE CLAIMS

Claims 1, 5-7, 9-11, 14 and 17-23 stand rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over JP 11-231730 to Tagawa ("Tagawa") in view of JP 2000-313533 to Masako ("Masako"). Claim 3 stands rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over Tagawa and Masako, as applied to claim 1, and further in view of JP 57-160844 to Fukuda ("Fukuda"). Claims 4 and 13 stand rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over Tagawa and Masako, as applied to claims 1 and 7, and further in view of JP 2000-335784 to Nobusuke ("Nobusuke"). Claim 12 stands rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over Tagawa and Masako, as applied to claim 9, and further in view of Fukuda. Claims 15-16 stand rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over Tagawa and Masako, as applied to claim 7, and further in view of U.S. Patent No. 6,726,197 to Aoki ("Aoki").

All prior art rejections are respectfully traversed. Without acquiescing in the rejections, claims 1, 3-7, 9 and 10 have been amended. The following discussion is directed to the claims as amended. Applicants reserve the right to file continuing applications to cover disclosed subject matter not encompassed by the currently pending claims.

1. **Claims 1, 6, 7, 9, 10, 17 and 18**

a. **The Terminal Machine (Independent Claims 1, 9 and 10)**

Tagawa does not appear to disclose the feature of an image forming apparatus providing, prior to commencement of an image forming job in response to an image forming request which the image forming apparatus received from a terminal machine, a warning at the same terminal machine that the number of paper sheets contained in the paper feed cassette of the image forming apparatus is insufficient to complete the image forming job. Consistent with this understanding of Tagawa, the March 19, 2009 Office Action in this case stated that:

With respect to claim 2, Tagawa in view of Masako discloses the claimed invention except wherein said image forming apparatus is configured to communicate with a terminal machine; wherein said image forming apparatus has received said image forming request from said terminal machine; and wherein said warning is provided at the terminal machine.

March 19, 2009 Office Action at 6 (emphasis added); *id.* at 10 (“With respect to claims 9 and 18, Tagawa discloses the claimed image forming apparatus except for a terminal machine.”).

The present Office Action contends that Tagawa actually does disclose these features. Office Action at 3. In particular, the Office Action identifies Tagawa’s “final controlling element (navigational panel) 30” as corresponding to the claimed terminal machine. *Id.* However, Tagawa final controlling element (navigational panel) 30 appears to be simply the control panel on the image forming device. For example, Tagawa discloses that:

This invention is characterized by an image forming device concerning the 1st means comprising the following, in order to attain said 1st and 2nd purposes. “[T]he 1st purpose is to provide the image forming device which can judge the excess and deficiency of transfer paper number of sheets exactly, and can secure a high throughput.” Tagawa ¶ [0007]. “The 2nd purpose is to provide the image forming device which can respond to various functions without enabling selection of an automatic function and sacrificing productivity.” *Id.* ¶ [0008]. “The 3rd purpose is to provide the image forming device which does not produce a paper end, even if parallel operation of various functions is permitted.” *Id.* ¶ [0009]. ...

[A] means to input a number of image forming sheets, and a means to specify image formation mode, Manuscript number of sheets counted by said means to count, an inputted number of sheets from specified image formation mode,

Tagawa ¶ [0010] (emphasis added). Tagawa also states that final controlling element (navigational panel) 30 includes:

[T]he liquid crystal touch panel 31, the ten key 32, the clearance/stop key 33, the printing key 34, mode Clear key 35, the initial-setting key 38, etc., [t]he function key 37, number of copies, the message that shows the state of an image forming device, etc. are displayed on the liquid crystal touch panel 31.

The key which shows the selected function by an operator touching the key displayed on the liquid crystal touch panel 31 is reversed black.

Tagawa ¶¶ [0022-0023].

Thus, Applicants submit that Tagawa discloses final controlling element (navigational panel) 30 as corresponding to the “means” identified in Paragraph [0010] of Tagawa as forming a part of the image forming device, and that Tagawa does not appear to disclose that the warning is to be displayed anywhere other than on the image forming device actually performing the image forming operation. The claimed terminal machine is not recited as being part of the claimed image forming apparatus. However, Applicants respectfully submit that the final controlling element (navigational panel) 30 does not qualify as the claimed terminal machine (and submit that the remaining references similarly do not disclose this feature). *See* Claims 1, 9, 10.

Further, Applicants respectfully submit that claims 1, 9 and 10 already established that the recited terminal machine is separate from the recited image forming apparatus. Nevertheless, without acquiescing in any rejection, claims 1, 9 and 10 have been amended to provide an explicit recitation that the image forming apparatus is located in one location and the terminal

machine is located in another location; and claim 9 has been amended to provide an explicit recitation that the image forming request comes from the terminal machine.

**b. The Push-Out Features (Independent
Claims 1 and 7, Dependent Claim 11)**

The Office Action found that Tagawa does not teach the recited push-out means and the control means that causes the paper feed cassette to be pushed out. Office Action at 3. However, the Office Action contended that Masako does disclose those features. Specifically, the Office Action identified pushing-out means 4 of Masako as corresponding to the recited push-out means. *Id.* at 4. The Office Action also identified Masako's cassette control part 9 as corresponding to the recited control means that causes the paper feed cassette to be pushed out from an installed state toward an uninstalled state by the push-out means without commencing the image forming operation. *Id.* From this, the Office Action concluded that it would have been obvious to modify the Tagawa image forming apparatus "to include the push out means taught by Masako for the purpose of automatically pushing out the sheet cassette when it has a[n] insufficient amount of paper for a job." *Id.*

In addition, the Office Action responded to Applicants' arguments regarding claims 11, 22 and 23, by stating that, "[s]ince the controller of Tagawa already detects and [sic] emptied state, and the push out device a [sic] Masako pushes out up[on] the detection of a[n] emptied state, Masako as modified is capable of carrying out recited function and the rejection is deemed proper." Office Action at page 13.

However, at a minimum and contrary to the statements in the Office Action, Masako does not disclose cassette control part 9 causing the paper feed cassette to be pushed out from an installed state without commencing the image forming operation. Rather, Masako appears to

disclose only that the paper feed cassette is pushed out “[w]hen the paper feed cassette is emptied of recording paper.” Masako at Abstract, Solution.

Indeed, Masako states that “[t]he recording device is provided with a no paper sensor 2 for detecting that a paper feed cassette 1 is emptied of recording medium,” Masako at Abstract, Solution (emphasis added). Masako does not disclose withholding commencement of an image forming job. Instead, the natural understanding of Masako is that the recording device commences an image forming job, but is unable to complete the job, or is unable to actually form any images, because the paper feed cassette 1 is empty. Thus, it seems very likely that the push-out occurs after commencement of an image forming job.

Moreover, Masako appears to teach away from combination with Tagawa. Tagawa is directed to displaying a warning. *See, e.g.*, Tagawa at ¶ [0065]. In contrast, Masako states that, “[t]o make visually recognizable a[n] emptied state of a paper feed cassette by means of the change in outer shape of a device body without looking at the display unit when the recording paper of the paper feed cassette is emptied.” Abstract, Problem to be Solved (emphasis added). This teaches away from Tagawa.

Applicants therefore respectfully submit that the Office Action was mistaken in concluding – perhaps based in part on a misunderstanding of what Masako actually discloses – that the combination of Tagawa and Masako would have rendered the claims obvious.

**c. Immediate Confirmation/Determination
(Independent Claims 1, 7, 9 and 10; Dependent Claim 6)**

With respect to claim 6, the Office Action states that Tagawa (as modified by Masako) teaches “the control means, not shown, immediately after an image forming request has been received, causes the sheet confirming means to confirm the number of sheets of the recording

medium stored in the paper feed cassette.” Office Action at page 5 (emphasis added). However, Applicants respectfully submit that Tagawa confirms the available paper amount only if specifically requested to do so by the user. Tagawa ¶¶ [0062-0063]. That is, the user is presented with the option of confirming whether the paper feed cassette has a sufficient number of sheets for the particular copy to be made. In response, the user may press key 301 on liquid touch panel 31 of the final controlling element 30 (*see* Fig. 3) to check the number of sheets in the paper feed cassette. Or, the user may choose not to check the number of sheets, in which case “all the data which read, accumulated and (Step 1212-1213) accumulated the required number of copies part manuscript conventionally like operation is copied by manuscript number of sheets, and it ends this processing (Step 1214-1215).” Tagawa ¶ [0062] (emphasis added). “On the other hand, in performing a transfer paper number-of-sheets check, in advance of reading a manuscript, it forbids the printing demand from other applications, such as FAX and a printer (Step 1202).” Tagawa ¶ [0063] (emphasis added). Applicants respectfully submit that Tagawa does not disclose the recited control means “configured to cause, immediately after the image forming request has been received by the image forming apparatus ..., the sheet quantity confirming means to confirm the number of sheets of the recording medium stored in the paper feed cassette.”

Nor does Masako disclose the “immediately” feature. Instead, the Masako device pushes the paper feed cassette out only when the paper feed cassette is emptied of paper. To do this, Masako discloses “a no paper sensor 2 for detecting that a paper feed cassette 1 is emptied of recording medium.” Masako at Abstract, Solution. Masako does not disclose, however, that “no paper sensor 2” checks for an empty paper feed cassette 1 immediately upon receipt of an image forming request from a terminal machine or prior to commencement of an image forming job.

Thus, Tagawa (whether alone or in combination with any of the other cited references) fails to disclose the control means recited in claim 6 as “configured to cause, immediately after the image forming request has been received by the image forming apparatus ..., the sheet quantity confirming means to confirm the number of sheets of the recording medium stored in the paper feed cassette.” Applicants have amended claims 1, 7, 9 and 10 to recite this feature (although not necessarily using the identical language).

Further, claim 6 has been amended to recite that “the control means is configured to cause, ... before commencement of the image forming operation in accordance with the image forming request, the sheet quantity confirming means to confirm the number of sheets of the recording medium stored in the paper feed cassette.”

d. Assumed Features

In certain instances, the Office Action appears to simply assume that Tagawa discloses certain claimed features. In particular, in discussing the rejection of claims 1, 7, 9, 17 and 18, the Office Action appears to assume that Tagawa has a “sheet quantity confirming means”: “note although it is not clear from the machine translation what means Tagawa attributes to the described operations, such functions would inherently require some type of computer processor”. Office Action at pages 2-3. The Office Action similarly appears to assume that Tagawa has a “control means” (“some computer structure”) embodying at least some of the recited features. Office Action at page 3. In this same vein, to the extent the Office Action may consider these recited features to be in means-plus-function format, the Office Action does not identify any specific structure in Tagawa corresponding to the recited function of any such means-plus-function elements. Applicants respectfully submit that the Office Action’s apparent assumption that claimed features are present in a cited reference is improper.

2. Claims 10 & 11

The Office Action states that the methods of claims 10 and 11 are “necessitated by the structure disclosed in claim 9” and that the “structure disclosed by Tagawa as modified is capable of carrying out the recited functions.” Office Action at page 5. As an initial point, Applicants respectfully disagree with the statement that the methods of claims 10 and 11 are necessitated by the structure disclosed in claim 9. Furthermore, the Office Action’s position does not account for the requirement that cited prior art actually perform the claimed method steps, not merely be capable of doing so.

3. Claims 20 & 21

Claims 20 and 21 recite that the image forming request is the result of a first work and that the warning precedes commencement of a second work. The Office Action states that Tagawa (as modified by Masako) discloses that the “image forming request is the result of a first work of a user at said terminal machine” and that, “since a warning message appears before commencement of a first work when there are insufficient papers, then it must inherently appear before a second work since the second work happens after the first warning.” Office Action at page 6. This statement appears to equate the first and second works of a user at the terminal machine with the image forming job of the image forming apparatus. Given that the claims recite the image forming request as being the result of a first work of a user at said terminal machine, it is not clear how the Office Action concludes that “a warning message appears before commencement of a first work of a user at said terminal machine.” Furthermore, Applicants respectfully submit that a warning could be provided before commencement of an image forming job by the image forming apparatus, yet after commencement of a second work by the user. Thus, Applicants respectfully submit that the Office Action’s inherency argument is improper.

4. Claims 22 & 23

Regarding claims 22 and 23, the Office Action states that “Masako teaches an engaging mechanism, 4, that can switch between an engaged state and a released state of the paper feed cassette relative to the main body of the apparatus” and that, “[s]ince it would be impossible to continue [to] print when the paper cassette is not in the installed position the devices as disclosed by Tagawa is capable of carrying out all recited functionality.” Office Action at page 7; *see also id.* at page 13 (“Since the controller of Tagawa already detects and [sic] emptied state, and the push out device a [sic] Masako pushes out up[on] the detection of a[n] emptied state, Masako as modified is capable of carrying out recited function and the rejection is deemed proper.”).

However, as discussed above, Applicants respectfully submit that Masako does not appear to disclose withholding commencement of an image forming job. Rather, Masako appears to disclose only that the paper feed cassette is pushed out “[w]hen the paper feed cassette is emptied of recording paper.” Masako at Abstract, Solution. Indeed, the Office Action’s statement that “it would be impossible to continue [to] print when the paper cassette is not in the installed position” appears to reflect this shortcoming of Masako. Office Action at page 7 (emphasis added).

Furthermore, the Office Action states that the method of claim 23 “is necessitated by the structure disclosed in claim 22” and that the “structure disclosed by Tagawa as modified is capable of carrying out the recited functions.” Office Action at page 7. As an initial point, Applicants respectfully disagree with the statement that the method of claim 23 is necessitated by the structure disclosed in claim 22. Furthermore, the Office Action’s position does not account for the requirement that cited prior art actually perform the claimed method steps, not merely be capable of doing so.

5. Claims 4 & 13

In addition, the cited references do not appear to disclose the feature of the paper feed cassette comprising the recited matching or metal portion of claims 4 and 13. The Office Action maintains the position that Nobusuke discloses the recited matching/metal portion, paper storage board and sheet quantity confirming means/paper sheet quantifier. Office Action at pages 9-10. In particular, the Office Action identifies the sheet residual quantity detection part 9 of Nobusuke as corresponding to the recited matching/metal portion, and bottom plate 2 as corresponding to the recited paper storage board. Office Action at pages 9-10.

However, claims 4 and 13 recite the paper feed cassette as comprising the matching/metal portion. The claims also recite that the matching/metal portion extends along an edge of the paper contained in the paper feed cassette. Applicants respectfully submit that, in contrast, the sheet residual quantity detection part 9 disclosed in Nobusuke appears to be outside of (*i.e.*, not a part of) the sheet cassette 6 and that the sheet residual quantity detection part 9 does not extend along an edge of the sheets 1 contained in the sheet cassette 6. Nobusuke at Abstract, Figs. 1-4.

In response to the Applicant's previous arguments on this point, the Office Action stated:

Applicant argues that, "the sheet residual quantity detection part is outside of the sheet cassette and does not extend along the edge of the sheets," which is not persuasive. Applicant does not explicitly claim this sheet residual quantity detection structure to be inside of the paper feed cassette but merely say it is a part of the paper feed cassette therefore the rejection is deemed proper.

Office Action at page 12 (emphasis added). The Office Action's response acknowledges that the claims recite the matching/metal portion as being a part of the paper feed cassette. That response does not, however, account for the fact that Nobusuke's sheet residual quantity detection part 9 does not appear to be part of the sheet cassette 6. Applicants respectfully submit that the rejection of claims 4 and 13 is improper.

6. Claims 15 & 16

With respect to claims 15 and 16, the Office Action states that Aoki teaches a warning that comprises a visual and an auditory warning. Office Action at page 12. However, the cited portion of Aoki states:

Further, when the preceding document S' remains nipped by the outlet roller 32, the controller 22 inhibits conveyance for the insertion of the following document S. At the same time, the controller 22 produces a video alarm message on the control panel 20 or produces an audio alarm speech. This surely urges the operator to pull out the document nipped by the outlet roller 32.

Aoki at col. 6, lines 59-65 (emphasis added). Although Aoki discloses producing a video alarm or an audio alarm, it does not disclose producing both a video and an audio alarm. Applicants therefore respectfully submit that the rejection of claims 15 and 16 is improper.

C. MISCELLANEOUS

In view of the foregoing and other considerations, all claims are deemed in condition for allowance. Accordingly, reconsideration and withdrawal of the rejections is respectfully requested, and a formal indication of allowability is earnestly solicited.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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